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ART. I.—*Report of Surgical Cases treated at the Pennsylvania Hospital.*  
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*Non-malignant Mammary Tumour of four years' standing—Extirpation—Cure.*—Ellen Curtis, ætat. 23, unmarried, from Gloucester county, New Jersey, was admitted February 17th, on account of a large tumour of the right breast. She states, that some time in the winter of 1838, she first perceived a small, movable tumour, situated apparently just below the skin, and on the inner side of the right mamma. This gave but little uneasiness, till it increased to the size of a walnut, when she received a kick on the part from a cow, after which it was at times slightly painful. She now covered it with a simple plaster, which treatment was continued till the month of May 1841, when she fell into the hands of a quack, who applied a caustic plaster to the part, and, in the course of a short period of time, pushed a lancet into the tumour one hundred and twelve different times. Excepting blood, no discharge followed these punctures. The application of the caustic plaster produced sloughing of the skin, which on separating, left an ulcerated surface that has continued up to the present period. After this treatment the tumour slightly enlarged, and has since that time presented a more angry and inflamed appearance. Five weeks since, owing to a large venous trunk having been opened by extension of the ulceration, hemorrhage to a very large amount took place, which was arrested upon the occurrence of syncope; and on the evening previous to her admission into the hospital, a second bleeding to the extent of three pints had occurred, from the same cause, which was arrested by pressure.

The tumour is now of large size, is very heavy, and is observed to be strongly lobulated, deep depressions existing between the lobes. These lobes are hard and inelastic, and the whole tumour is loose and free from

any attachment to the parts beneath. About one-fourth of the skin covering the breast is ulcerated, the parts below presenting the appearance of a healthy indolent ulcer, discharging laudable pus, and with nothing like a fungous growth protruding from it. No hemorrhage has ever occurred from the surface of the ulcer. The skin is reddened around the ulcerated part, but is at no point puckered, and the veins on the upper surface of the breast passing towards the neck, are very much enlarged. The nipple is observable, below the ulceration, healthy in structure, though nearly obliterated; at no time has there been any discharge from it. The tumour is not tender to the touch, neither is it painful, except on the approach, and during the continuance of the menstrual discharge; and with the exception of its weight and size, the patient, until within a short time, has experienced no inconvenience from it, and up to within two weeks of her admission into the hospital, had been actively employed in the domestic duties of a farmer's family. The left breast is of normal size and appearance. Her general health is good, and there is no enlargement of the cervical glands, or of those in the axilla. She is not emaciated, and her skin is free from sallowness, though her appearance is that of a person debilitated from large losses of blood. Her menstrual periods, which on the first appearance of the swelling were irregular, both as to quantity and time, are now natural, and with the exception of some enlargement of the tonsils, she presents no mark of a scrofulous taint.

Upon the first aspect of this case, it presented the appearance of, and might upon a superficial examination have been pronounced, a tumour of a malignant kind; but the history of its rise and progress, as well as a careful examination of it, readily showed its true nature. The age of the patient, the want of sallowness in her skin, her comparatively good general health, and the slight pain she had suffered from it, were alone sufficient to lead us to suspect its freedom from malignancy; and when taken in connection with the great weight of the tumour, its loose attachment to the surrounding parts, the slow progress and duration of the disease, the absence of glandular disease in its vicinity, together with the want of all fungous growth, and the discharge of laudable pus from its ulcerated surface, and its marked lobulated feel and appearance, proved conclusively that the character of this case had nothing in common with either cancer or fungus hæmatodes. The disease was looked upon as belonging to that class denominated chronic mammary tumours, and in the advanced stage in which it existed, was evidently a proper case for the knife. It differed, however, from most tumours of this class in its great size, and a correct diagnosis of it was particularly important, as we could confidently predict for the sufferer freedom from any return after the operation.

In consequence of the occurrence of her menstrual period a day or two after her admission into the hospital, the disease was not extirpated till 2d of March. The operation was done in the usual manner, the tumour

being included in two elliptical incisions. The hemorrhage following it was not great, a point of suture was inserted in the middle of the wound, and its sides, in addition, were brought together with two or three strips of adhesive plaster, after which the wound was covered with a little lint, and the arm supported by a sling.

Upon examination after removal, the tumour was found to be made up of a number of separate lobes, very closely connected together by cellular tissue. The structure of these lobes was very dense, and when divided presented very much the appearance of sweetbread. No vessels could be traced running through the tumour, which was completely surrounded by a covering of thick tendinous substance.

After the operation, she suffered from repeated attacks of erysipelas, as well around the wound as on the back, abdomen, legs, arms and face. These were treated by a careful use of the blue pill and mild cathartics, together with neutral or effervescing mixtures; the parts affected being bathed with soap liniment, and in consequence of her great debility, tonics and nourishing food of an unstimulating kind, in such forms and quantities as her excessively irritable stomach would allow her to retain, were administered. The applications to the wound, after the first day or two, were principally the common mucilaginous or water dressing, an adhesive strap being at the same time applied to favour cicatrization.

On the 25th of March, a large abscess seated over the lower part of the back, was opened. On the 31st, abscesses which had formed on both upper extremities above the elbows, were opened. By the 2d of April, the wound was completely cicatrised. On the 12th and 23d of April, other large collections of matter resulting as in the former instances, from erysipelas, were laid open, and on the 5th of May she left the hospital for Jersey, in good health.

*Compound dislocation of the first, upon the second phalanx of the Thumb—Reduction impossible—Resection of the head of the first phalanx—Cure.*—Neill Larkin, a stout drayman, ætat. 28, while engaged in unhitching his horse, had the end of his left thumb accidentally entangled in a link of the drawing chain, when the horse starting suddenly, dragged him some distance, and produced the accident just mentioned. He was brought to the hospital late in the evening of February 17th, a couple of hours after its occurrence, when strong and well-directed efforts were unsuccessfully made to reduce it, the clove hitch being attached to the extremity, after a first failure with the hand alone. On the following morning, I found the head of the first phalanx protruding considerably inwards through a wound which embraced more than one-half of the circumference of the finger; another effort at reduction was now attempted by bending the luxated phalanx and endeavouring to push its projecting head over that of the adjoining bone, but failing in this, I determined to remove the protruding extremity of the bone,

which was at once done with the metacarpal saw, to the extent of three or four lines, after which the parts were easily replaced. The edges of the wound were then drawn together with strips of narrow adhesive plaster and the part covered with dry lint, the hand and fore-arm being secured upon a splint. After the third day, the dressings were daily made, the part being only covered with simple ointment. No unpleasant symptoms followed.

*March 23d.* Wound entirely closed; on the 26th he was discharged, and on the 13th of April he called at the hospital, at which time he had good use of the thumb with some motion at the point of injury.

The difficulty of reduction in cases of simple luxations of the phalangeal articulations, even when the patient is seen soon after the accident has occurred, is well known, and the same difficulty exists in reducing and retaining in place compound injuries of this class. So hard is the reduction to effect, that it is asserted upon the authority of Bromfield, that the extending force has been increased to such a degree as to tear off the second joint in efforts to reduce the first. In compound luxations of the thumb, when found irreducible upon the application of a moderate degree of force, I believe the best practice to be that which was pursued in Larkin's case, viz., to saw off the end of the projecting bone. If the wound be large, and this be not done, observation shows that even when the part can be reduced, the dislocated end will in the majority of cases become displaced, as the inflammation necessarily following it, prevents the application of a sufficient degree of force by bandages and splints, to retain it in its natural position. One case of this kind I have myself witnessed, and another instance which occurred in Guy's Hospital has recently been published, in which, although the phalanx was easily reduced immediately after the accident, so much inflammation and constitutional disturbance occurred, as to make it necessary to remove the splints and other dressings which had been applied, and resort to cataplasms; the patient being ultimately cured, after entire loss of the first, and exfoliation of the extremity of the second phalanx. Resection of the phalangeal extremity is the practice recommended by Sir A. Cooper, in compound dislocations of these parts, where difficulty is experienced in their reduction, and has often been done with good success. Gooch states that he sawed off the head of the second bone of the thumb, and that a new joint afterwards formed. In two instances, where the head of the metacarpal bone of the thumb was dislocated towards the palm accompanied with wound, and reduction was difficult, the protruding parts were successfully sawn off by Mr. Evans. Bohe, Wardrop, and Roux have all been successful in like cases. The bad effects resulting from these injuries where the head of the bone is replaced, and which seem to be at least in part owing to the force necessarily made use of, and the state of tension afterwards kept up in the surrounding soft parts, by its return, has been often noticed. An instance came under my care, in which high inflammation and tetanus ensued upon the injury, where this practice was pursued; and Mr. S. Cooper reduced a case at the North

London Hospital, which was followed by severe inflammation, terminating in death, a week after the accident.

*Aneurism by anastomosis—Ligature—Cure.*—A female child, ætat. three months, was brought to the hospital on the 14th of February, with an aneurism by anastomosis of moderate size, seated a little in front of the anterior fontanelle. The mother stated, that at birth it was but just visible, that its growth latterly had been rapid, and that it was daily increasing. Two needles were passed transversely beneath the base of the tumour, taking care that they should enter, and pass out a little distance beyond the diseased structure, after which a ligature was drawn around its base sufficiently tight to strangulate it. Two days afterwards the pins were removed, and a poultice of slippery elm applied to hasten the separation of the slough. This came away on the following day, leaving a healthy ulcerated surface, which in a short time was completely cicatrised.

The mode of procedure adopted in the above case of transfixing the tumour by means of needles passed beneath it, at right angles with each other, and securing a ligature tightly around its base, is that which I usually employ, and is well adapted for the removal of all tumours of this kind of moderate size; the operation being safe, and quickly performed, and the pain caused by it but of short duration. The double ligature passed through the base of the tumour, which is often employed, may be followed by some hemorrhage after the tightening of it from the separation of the surfaces through which the needle is passed, besides which the shape or situation of the nævus may be such as to make it very difficult to fasten the ligature on either side around its base, entirely beyond the limits of the affection. A single needle placed under the centre of the tumour is also generally insufficient to procure the enclosure of all the diseased part within the loop of the ligature.

*Varicose Ulcer—Daval's operation—Severe inflammation—Cure.*—Thomas McCullen, a remarkably stout and healthy man, ætat. 28, was admitted September 21st, 1840, for ulcer on the inner and lower side of the right leg with great enlargement of the veins about the ankle. On the 26th two needles were passed through the vein a little below the knee, and a ligature twisted around them after the manner of Davat. No pain was complained of, or inflammation observed, for the first few days after the operation. On the 1st of October some redness was perceptible around the needles, and they were removed. On the 2d, the leg was swollen, hot, and painful, and on the day following, the man had fever, with pain extending up into the groin, the glands of which were much swollen. The tongue was furred, and the skin and conjunctiva of a yellowish hue. Small doses of calomel with neutral mixture, containing a small portion of tartarised antimony, and morphia in the evening, constituted the general treatment, while the local consisted in the application of leeches, followed by cold lead-water

to the groin and thigh, with a poultice to the leg, which was laid in an easy position upon a pillow. The symptoms continued unabated on the 4th, 5th, and 6th, during which the same treatment was pursued with the addition of a purge. On the 7th, his fever was less, and pain diminished. On the 8th, an abscess which had formed around the place of insertion of the needles was opened, and a large quantity of pus discharged from it. From this date he continued slowly to improve; the abscess, however, was long in filling up, and it was not until the 5th of December, that he left the hospital.

The number of patients applying for admission into our hospital, afflicted with varix, is considerable, and in them, as well as in private practice, I have uniformly dissuaded from all operations for their cure, so long as relief could be afforded by the laced stocking or bandage. In cases, however, where the patient was greatly incommoded by them, or urgently demanded it, I have occasionally operated—generally, by the method of Davat, and never, until in the instance of McCullen, have seen any severe symptoms produced by it. Death, however, is reported to have followed its employment, by Velpeau, S. Cooper, and others, and the severity of the symptoms in the above case, has induced me to report it, inasmuch as the operation is often done, and is looked upon, as indeed it generally seems to be, in no wise a dangerous one.

*Fractured thigh of twenty-one days' standing—Union delayed by motion at sea—Firm union thirty-eight days after the application of Desault's apparatus—Re-fracture during convalescence—Renewal of the treatment—Cure.*

—Joseph Pool, ætat. 45, a healthy seaman of good habits, entered February 17th, with a fracture of the thigh near its middle part, which had occurred at Porto Rico, twenty-one days previously. The accident had been produced by a hogshead of sugar rolling over upon his limb, and had been properly dressed by a surgeon soon after its occurrence. A day or two after his injury, the vessel to which he belonged sailed for this port, and from that time the treatment of the limb was superintended by the captain, the extremity being placed in a long fracture-box, extending to the groin, and the foot fastened by means of a handkerchief to a cross-piece at its bottom, the fractured part being at the same time supported on its sides by pasteboard splints and thick pieces of sail cloth.

Upon admission, the limb was found to be free from swelling or excoriation. No provisional callus appeared to have been thrown out around the fractured fragments, which admitted of much motion. The upper fragment was drawn outwards, and the lower was thrown inwards and a little upwards, the limb being about one inch shorter than that of the opposite side. In order to place the fragments in good position, and make moderate pressure over the thigh, Desault's apparatus was applied to the limb, though but little extension and counter-extension was made, and a full diet with porter, was directed.

*March 14th.* A considerable mass of callus has been thrown out about the fracture, but there is still some motion; to-day, pressure with pasteboard splints, moulded to the limb by previously wetting them, and firmly applied by means of a roller, commencing at the foot, was made use of, the long splints being continued.

*26th.* Union perfectly firm. Desault's apparatus was removed so as to allow the patient to move his limb about the bed, the pasteboard being continued.

On the night of the 28th he re-fractured his limb at the point of previous injury, by turning over in bed during sleep, and entangling his foot in the sheet, in consequence of which the long splints were again employed. By the 17th of April the limb was found to be again firmly consolidated, when the apparatus was removed, and on the 7th of May he left the house with a good limb, and very slightly shortened.

Another case of fractured leg of some standing, which had occurred and been treated at sea, was under care and discharged during my term. The patient, ætat. 28, met with his accident on the 7th of November, by a blow from a chain cable. Both bones were fractured near the middle of the leg. He stated, that ten days after his accident, ulceration over the injured part occurred, after which the bone protruded. On the 29th of November he arrived here, and was brought to the hospital, at which time the extremity of the upper fragment was protruding, and was removed with the nippers by my colleague, Dr. Peace, the limb being afterwards placed and retained in a good position in a fracture-box. About the middle of January, a small piece of bone came away, when the wound soon cicatrised, and on the 28th of March he was discharged cured, union having been firm for some time previously.

A third case of delayed consolidation after fracture of the leg, treated at sea, occurred in the person of a sailor aged 22, who was admitted on the 23d of March. His fracture was in the lower third of the limb, and had happened twenty-three days previous to admission, from a blow upon the part. The bones were quite loose when admitted, and some projection of the upper fragment was present. The limb was placed, properly supported, in a good position in a fracture-box, and a generous diet allowed. Pressure by means of pasteboard splints and a roller were after a short time applied, and by the 14th of April union was complete, and a large amount of callus surrounding the injured bones. The limb was now removed from the box, and on the 5th of May he left the house cured.

The above cases are all well adapted to show the effect of motion in retarding the union of fractured bones, and the benefit derived from pressure and rest in their cure—a treatment which, as we have shown in a former number of this journal, is peculiarly adapted to, and likely to prove successful in, all cases of non-union, in which the cause can be attributed to motion, or want of proper position after the recent fracture, where the ends

of the bone are not absorbed, and are connected by fibro-cartilaginous substance, into which sufficient bone has not been deposited, or to cases where no sort of union has taken place, in consequence of previous want of perfect apposition, provided the ends can be brought into contact, and they have existed but for a short time. The case of Pool, too, is interesting on account of re-fracture of the bone during convalescence, and adds another to the many already recorded, going to show the ease with which the union of recently consolidated bones may be ruptured at their previous point of injury, the little danger there is of consequent inflammation of any degree of severity, and the rapidity with which these re-fractures become united—points all of practical interest, as bearing upon the question of the propriety of rupturing recent badly consolidated fractures.

*Dislocation of the radius forwards upon the humerus, with ununited fracture of the ulna in its upper third, of eight months' standing—Resection of the extremities of the fractured bones—Failure.*—Darby Nelson, ætat. 39, was admitted on the 6th of April, and gave the following history of his case.—About the middle of August, 1841, he met with his accident in the state of Indiana, by a horse falling and rolling over upon him, his arm being caught between the animal and the ground. The day after the injury, the luxation of the radius and fracture of the ulna were recognised by the practitioner called to attend him, who dressed the arm with two long splints, extending from the elbow to the ends of the fingers. The limb was retained in these splints for nearly three months, and when thrown aside, the fracture was found not to have united, and the luxation of the head of the radius was seen to be unreduced. Upon examination, the rounded head of the radius was felt on the anterior part of the humerus, just above the external condyle, rolling under the finger when the hand was rotated. The fore-arm could not be brought to a right angle with the arm, and when this was attempted, the head of the luxated bone was felt to strike against the humerus. Neither complete pronation nor supination of the hand could be performed when the arm was securely held. The condyles presented their normal appearance. The ulna was fractured three and a half inches below its upper end, and the superior fragment was drawn inwards and forwards, while the inferior was pulled upwards beneath it. The extremities of the bone passed each other to the extent of an inch or more. A great deal of motion existed at the point of fracture, and the muscles of both the arm and fore-arm were much shrunken. He complained of no pain when the part was handled. He was able partially to flex the fore-arm, but in so doing suffered pain, apparently from the pressure made on the soft parts by both of the fractured extremities. My colleague, Dr. Peace, who saw him in consultation, agreed with me in thinking that any attempt to reduce the radius would be futile, and as he was urgent for something to be done to give strength to the part, and the operation appeared to offer some chance of suc-

cess, we recommended that an effort should be made to procure union of the fractured ulna by resection of its ends. Accordingly, on the 13th of April the extremities of the bone were laid bare, and as much of them removed by a small saw as to allow of their being brought into apposition. The limb was then dressed as in ordinary cases of compound fracture, the sides of the wound being approximated, and a state of rest secured by the application of a proper splint.

On the 14th he complained of some pain in the arm, had a warm skin and a furred tongue. The bandage around the arm was loosened, and a purge and the effervescing mixture directed for him.

On the 15th he had high fever and erysipelas of the limb, which was placed in a carved splint, and had lead-water applied to it. His mixture was continued, with the addition of a portion of blue mass at bed-time.

By the 23d the erysipelas had disappeared: the wound looked well, but suppurated largely. Some time after this he suffered from a second attack of erysipelas of the whole limb, which terminated in abscess half-way between the elbow and shoulders. On the 6th of May he had a third attack of erysipelas. After the subsidence of this, his general health improved rapidly, though cicatrization of the wound progressed but slowly. As soon as the state of the extremity admitted of it, pressure was made use of, and during the whole treatment a state of perfect rest was ensured to the limb. The employment of pressure and rest was continued till towards the end of August, when, there being no probability of firm union occurring, they were discontinued. At this time it appeared, upon careful examination, as if the ends of the bone had been somewhat absorbed and rounded, and the fragments united by ligament.

The existence of great malposition in the fractured fragments in the above case, induced us to make choice of the operation of resection. The attacks of erysipelas from which the patient suffered after its performance, together with the free suppuration to which they gave rise, I am inclined to look upon as the principal causes of our failure to procure union. As an example of a rather rare accident, viz. luxation forwards of the upper extremity of the radius, the case is also interesting. This injury, even when uncomplicated, is often difficult to reduce, and when accompanied with a fracture of the ulna, its successful treatment would necessarily be greatly increased.

*Fistula in Perineo following a fall—Operation—Cure.*—At the commencement of my term of duty for 1840, I found in the wards James M'Cracken, a stout labourer, aged 26, affected with fistula in perineo. He stated that in September, 1839, he was upset in a railroad car, and was so thrown as to strike the perineum with force against the edge of the car. A small wound resulted from this, through which the urine flowed, and has continued to pass ever since the date of his accident. The fistulous opening

was found to be situated about two inches anterior to the anus and a little to the left of the raphe; it was small, and the urethra was so much contracted as to permit of the introduction of even a fine probe from this opening into the bladder with difficulty. A sound could be passed from the penis to within about an inch of the fistulous opening, at which point it was arrested by a hard unyielding mass, into which the finest bougie could not be made to enter. The opening in the perineum was carefully dilated until a full sized instrument could be passed into the bladder from it, when the following operation was performed.

The patient being placed and secured as in the operation for stone, a large staff was introduced through the fistula into the bladder, and a straight sound was passed from the mouth of the urethra down to the obstructed part, and carefully held by assistants. An incision was then made, exposing the point of the sound, and laying open the corpus spongiosum down to the track of the urethra, and extending below to the staff which had been passed into the bladder from the fistulous orifice. The sound was now withdrawn, and a full sized gum elastic catheter was passed from the penis down through the opening which had been made, and its end was then slid along the groove of the staff from this point into the bladder without difficulty. The latter was now withdrawn, and the sides of the incision were brought together with five points of the interrupted suture.

21st. Has but little pain; some swelling of the scrotum and parts about the wound. Cold mucilage to the parts.

On the 22d, union appeared perfect, and two of the lower sutures were removed.

24th. The catheter was found so clogged that it was necessary to remove it, and some difficulty was experienced in replacing it, in effecting which the adhesions were partially broken up.

27th. Wound looks well and is granulating. Some pressure on its sides is made by means of a compress and strip of adhesive plaster. The catheter becomes so clogged that it is necessary to change it every second day.

The wound after this date continued slowly to contract and cicatrise, the granulations being occasionally touched with nitrate of silver. By the 27th of July it had become extremely small, and the constant use of the catheter was omitted. By the 8th of August the wound had entirely cicatrised, and he urinated well. He was retained in the house in the capacity of assistant, in order to test his cure, until the 4th of November, when he was discharged cured.

Several months after his discharge, M'Cracken was seen by the nurse of the ward, and reported that he continued perfectly well.

The operation of incision for the cure of fistula in perineo, is but rarely demanded, as ordinarily these cases may be cured after all strictures have been overcome, and the urethra has been restored to its natural size, by the use of the catheter, by cauterisation with nit. argent., a heated wire, &c.

Where, however, cases are rebellious to this treatment, or as in the above instance, are accompanied by such circumstances as to render the use of the catheter impossible, nothing remains but a resort to it. When determined upon, care should be taken to have the urethra posterior to the opening well dilated prior to its commencement, and an instrument should always be passed into the bladder from this point previous to making any incision. For want of this precaution, patients have often been kept upon the table for a long time while a painful search was making for the opening, and more than one operator has had the mortification of seeing his patient removed to his bed without having succeeded in passing the instrument into the bladder.

*Forearm torn off by machinery a little below the elbow—integument entirely stripped from the arm—Amputation at the shoulder joint—Cure.*—Patrick Scanlin, ætat. 21, was admitted on the evening of June 27th. At 11, A. M. of that day his hand had been entangled in the machinery of a cotton mill, in Darby, and the right fore-arm completely torn off, a little below the elbow, as well as the whole of the integument covering the arm, leaving the muscles bare and lacerated. The skin covering the back was also torn up to some extent, but not separated, and the whole side and chest were severely contused. But slight hemorrhage followed the accident, and at the time of his admission into the hospital he had a full and strong pulse, and was suffering severe pain in the lacerated parts. A full dose of laudanum was exhibited to him and amputation at the shoulder joint determined upon. This was at once done (the patient being seated on a chair) by a circular incision of the muscles, while compression on the subclavian artery was made by my colleague, Dr. Peace. The parts were exceedingly vascular, requiring the application of an unusual number of ligatures—but little blood, however, was lost during the operation, the axillary being at once secured, and the other vessels being but of small size. The integument had been torn off to such an extent that it was impossible to close entirely the wound. The sides, however, were drawn together with adhesive strips, and covered with charpie, and a bandage afterwards applied around the chest. For a few days after the operation he seemed much affected by the weather, which was excessively hot, and had fever with delirium. These, however, soon passed off and he improved rapidly. On the 22d day, the axillary ligature came away, and on the 5th of October he returned home in good health.

*Fore-arm torn off by machinery at its middle part—Fracture of the humerus of the same side—Amputation—Cure.*—Hugh Bennet, ætat. 37, entered March 25th, at 9 P. M. Three hours previously his left hand had been caught in the machinery of a woollen mill and the fore-arm completely torn off near its middle. The bones had been fractured just above the wrist, and the soft parts having been stripped from them, they were left bare and protruding from the ragged stump for four or five inches. The humerus of the same

side was also fractured below the insertion of the deltoid, which, according to the statement of the patient occurred from muscular action alone, he having with great presence of mind, when he found himself caught by the machinery, placed his foot against a firm body in front of him, and made use of all his muscular force to draw the entangled limb from it—in his efforts to do which the humerus gave way. Great swelling existed at the elbow and at the point of fracture, and the arteries of the stump were seen hanging down below the surface, pulsating violently, but without giving out any blood, their ends being tightly twisted. But little blood had been lost. The ragged end of the stump was amputated by the circular operation, the fractured humerus being firmly supported by splints. The usual dressings were applied and the arm afterwards placed in two paste-board splints moulded so as to embrace it in two-thirds of its circumference. A large opiate had been administered previous to, and was repeated some time after the operation. With the exception of an attack of inflammation, which occurred around the elbow, no untoward symptom followed; this terminated in abscess, which was opened on the 4th of April. By the latter end of this month, the humerus had become firmly consolidated, and on the 19th of May he was discharged cured.

*Dislocation of the shoulder of four weeks' standing—Reduction.*—Micajah Dielks, ætat. 51, applied to me, January 18th, 1842, on account of a luxation of his right shoulder, which he had received twenty-nine days previously by a fall from a waggon. The head of the bone was in the axilla, and the distinctive symptoms of the accident were all well marked. The patient was muscular, and had already submitted to an attempt at reduction in the state of New Jersey, five days previous to my seeing him. The head of the bone admitted of considerable motion. On the morning following his arrival in town, the pulleys were applied, the extension and counter-extension being made in the usual manner, the first above the elbow and the latter by a sheet in the axilla, together with a strap over the acromion process of the scapula; at the same time a solution of tartar emetic was administered at short intervals. After the extension had been kept up about thirty minutes, a towel was passed under the head of the bone with a view of raising the latter from the axilla, which being done at the same time that the extending force was suddenly discontinued, produced a return of it to the glenoid cavity. A clavicle apparatus was afterwards applied. The day following the reduction, he complained of a good deal of soreness about the shoulder. The parts were well bathed with warm soap-liniment, and on the 25th he returned home—the stiffness gradually disappearing.

*Dislocated shoulder of seven weeks' standing—Reduction followed by inflammation and suppuration about the joint—Cure.*—Samuel Ickus, a stout countryman, ætat. 25, from Carlisle, consulted me in December, 1840, on

account of a downward luxation of the head of the right humerus received forty-eight days previously. The symptoms of the injury were well marked, and on the 21st the pulleys were applied. The extension was made gradually and moderately, for fifty-five minutes, previous to and during which time a solution of tartar emetic was freely given, and a large bleeding resorted to. At the end of the period mentioned, the head of the bone was returned to its socket, all deformity disappearing. Two days after the reduction he was attacked with inflammation around the orifice made in the left arm by venesection, which went on to suppuration, and an incision for the evacuation of the pus was made on the 28th. The right shoulder, which had become hot and swelled soon after the reduction, despite the employment of the usual means for allaying the inflammation, presented on the 30th more swelling, and an obscure sensation of deeply seated pus. On the 31st fluctuation was more distinct. A free opening was now made, and gave issue to a large quantity of well formed matter. After the opening of the abscess the discharge continued large till towards the middle of February, during which time he suffered from several attacks of erysipelas, which, at the time, was prevalent in the hospital. After this period, the discharge gradually lessened in quantity and became more serous. Early in March, an abscess formed at the posterior part of the axilla, which was opened and discharged freely. By the 7th of April the opening had closed, and all heat and swelling had left the part. On the 26th of the same month he left the hospital to return home, the head of the bone being evidently in the socket, though the parts about the shoulder were still much hardened and stiff.

*Dislocation of the humerus into the axilla of ten weeks' standing—Unsuccessful efforts at reduction.*—Daniel Collins, ætat. 50, was admitted June 11th, 1840, with a luxation of the humerus into the axilla of ten weeks' standing. He states that this accident was produced by a fall—that slight efforts were made to replace the bone immediately after the accident by an unprofessional person, and that a week before his entrance into the hospital, well directed and long continued efforts were made by a surgeon to reduce it. He was a blacksmith by trade, and, being anxious for a further trial to reduce it, had entered the hospital for this purpose. All the symptoms of luxation downwards were well marked—the head of the bone was drawn high up into the axilla and admitted of very little motion. The dangers to which he would be exposed by our efforts at reduction having been first plainly stated to him, the pulleys were applied on the 13th, and extension and counter-extension to as great a degree as was judged safe kept up for nearly an hour, at the same time that the muscular system was completely relaxed by the use of free bleeding and tartar emetic. At the expiration of this time, as the head of the bone appeared not to have yielded in any degree to the force employed, further efforts were desisted from, and on the following day he requested his discharge.

The subject of the reduction of dislocations of long standing is one of considerable interest to the surgeon. The class of cases and periods after the injury, in which attempts may be undertaken with any prospect of success, as well as the accidents that sometimes follow them, have not as yet received that attention which they merit. In the first of the above cases, the joint admitted of considerable motion, and the reduction at the end of one month was readily accomplished, and was not followed by more than the usual degree of soreness about the shoulder. In the second case, where the patient was young and robust, and the arm admitted of some motion, the reduction was accomplished nine weeks after the accident, by the employment of a less degree and shorter continuance of extensive force than I have repeatedly made use of, but was followed by inflammation and suppuration about the joint. This accident does not very often occur after the replacement of luxated bones, though cases have been observed in which it has succeeded the easy reduction of even very recent dislocations. In the last case, where the injury was of ten weeks duration, and the patient somewhat advanced in life, with the head of the bone drawn high into the axilla, we were foiled in our attempts to reduce it, and have understood that the patient afterwards submitted to a third pulling under the direction of a gentleman of this city, after previous division of some of the muscles or tendons about the joint, without better success.

I am well aware that surgeons have always examined into the degree of motion existing in an unreduced joint before determining upon the propriety of an attempt at reduction in cases where bones have been long out, but nevertheless am disposed to think that we have been accustomed to direct our attention too much to the period which has elapsed since the receipt of the injury only, without allowing the situation of the bone and the degree of motion due weight in determining the question. Abundant evidence might be adduced to show that luxations have often been reduced after the limits fixed upon by our high authorities, where the head of the bone admits of slight movements, and is not drawn up closely into the axilla, and where an opposite state exists they are frequently irreducible long before that limit is arrived at.

*Compound fracture of the cranium with depression, unattended by symptoms of compressed brain—Application of the trephine—Cure.*—Benjamin Prime, ætat. 18, was admitted, September 2nd, 1840. It was stated that early in the morning while asleep on board a vessel in the Delaware he had been struck over the head with an axe. Two small wounds were found to exist over the frontal bone a little to the left of the median line, rather more than two inches above the orbital ridge; which, on introducing the finger, were found to communicate with a depressed fracture of the bone. No symptom of compressed brain existed. The pulse was 74; temperature of the skin good; pupils natural. A short time after his admis-

sion, the depressed portion of bone was exposed by enlarging the wounds, and a small trephine was applied to the edge of the sound bone above the seat of fracture. Several small fragments of bone were removed, and the large part of the depressed portion, which was driven in for about half an inch, was then raised with the elevator. The coverings of the brain were uninjured. The soft parts were brought together with an adhesive strip and the wound covered with lint. Cold was applied to the head. Absolute diet. In the evening he was bled  $\bar{3}xvi.$  and the neutral mixture with a small portion of tartarised antimony was administered every two hours.

3d. No pain or uneasiness in the head; pulse 80; tongue clean; wound not disturbed. A purgative was administered in the morning which produced a free discharge from the bowels. In the evening he complained of some uneasiness in the head and was again bled  $\bar{3}xiv.$

4th. The wound looks well. The neutral mixture and antimonial were continued, and as his pulse was full and strong, blood was again taken from his arm.

On the 5th, he was free from pain or delirium, but presented a hot skin, with a pulse of 84. He was again bled, but after the loss of two or three ounces, became faint. A mercurial purge was ordered in the evening. The wound was suppurating kindly, and was dressed with lint wetted with water.

14th. Since the last report the patient has continued to do well. A rigid diet, with antimonials, and simple cerate, or the water dressing to the wound having been continued, to-day he had slight epistaxis and complained of some pain in the head, to relieve which a vein was opened, but after a few ounces of blood were drawn, he fainted.

On the 15th, he was free from headache, the wound presented a healthy appearance, though the cheek of one side was erysipelatous. The medicine he had been using was omitted, and the following directed:—*R.* Antim. tartar. gr. i.; pulv. nit. potass.  $\bar{3}i.$ ; aq. fluvial.  $\bar{3}vi.$  A table-spoonful three times a day.

On the 17th he was free from fever and all trace of erysipelas. On the 19th and 20th, small pieces of bone were seen to be loose in the wound, and were removed, and his diet was cautiously increased. On the 27th another larger portion of bone, and consisting of both tables, was removed. After this date, the patient gradually recovered his strength, cicatrization of the wound, however, which was occasionally touched with nit. argent. and sulph. cupri., progressed slowly, and was not complete till the middle of November. On the 2nd of December he left the hospital in good health to return to his friends in Eastport, Maine.

The following case, which occurred in my private practice, is not without interest.

*Varicose aneurism at the bend of the arm—Ligature of the artery above*

*and below the sac—secondary hemorrhages with a return of the aneurismal thrill on the 10th day—Cure.*—In May last, I saw in consultation with Dr. Rutter, Mr. K. *ætat.* 42, on account of a tumour at the bend of the arm, which had followed venesection. The patient, who had a permanent jaundiced appearance, but was enjoying an apparently good state of health, gave the following account of it. In March he was bled at his own desire by a bleeder who had performed the same operation for him, and generally in the same arm, some thirty or forty times. Nothing extraordinary occurred, other than that he remarked the flow of blood to be greater, and to be checked with more difficulty than had usually been the case. This was, however, done by firm compression, and on the day following finding the bandage tight, he removed it, and found the orifice to be completely closed. A short time after this, a small pulsating swelling was observed by him at this point, which slowly increased till a day or two previous to my seeing him, when, after some exertion with his arm, he observed a very considerable sudden augmentation in its size. Upon examination, a tumour of the size of a walnut was found at the bend of the arm; this was soft, pulsated strongly, and offered both to the touch and ear the purr and thrill peculiar to varicose aneurism. The vein running over the surface of the tumour, was greatly enlarged, and in its centre a cicatrix was perceptible, the skin around it appearing to be exceedingly thin. By pressure the vein could be readily emptied, and when this was done, a pulsating tumour was plainly felt more deeply situated between it and the brachial artery, which, by firm pressure could likewise be made to disappear. Compression on the artery above the tumour stopped all pulsation in it, on the removal of which it quickly returned to its original size. The pulse at the wrist was weaker than that of the opposite arm.

As the case was evidently one of false circumscribed aneurism, combined with aneurismal varix, and was increasing, I recommended him to undergo an operation for its cure, in which opinion Dr. J. R. Barton, who afterwards examined it, coincided. To this, however, the patient was averse, and I heard nothing more of him till the 16th of June, when I was again consulted, and found that he had been making use of strong and well applied pressure by means of a spring truss from the time I first saw him, and finding this painful and the tumour still augmenting, was now anxious to undergo the operation.

This was done on the 17th. The artery being compressed in the arm, the skin was divided over the tumour in its whole extent, without however opening the vein. The sac and dilated vein were then fully exposed by dissection as well as the artery, and ligatures were passed under the latter immediately above and below the sac. After careful examination to see that the ligatures surrounded the artery alone, these were secured—the lower one first. All pulsation in the part immediately ceased. The edges of the

wound were drawn into apposition by adhesive plaster, and the patient was put to bed with the limb extended on a pillow.

On the 20th, pulsation could be felt in the radial artery.

On the 27th a return of the thrill in the vein was detected.

Early on the morning of the 29th he was awoke out of a sound sleep by hemorrhage from the arm, which, when I reached him, a half hour after its occurrence, had been checked by a professional gentleman in the neighbourhood by the application of a moderate degree of pressure; near a pint of florid blood was said to have been lost. Finding him easy, I left him without in any way disturbing the wound, but before mid-day was again summoned on account of a renewal of the bleeding. Upon removing the dressings, this was found to proceed from the opening through which the upper ligature passed. The parts around the wound presented a good appearance, no inflammation existing, and the divided parts having entirely united except at the points through which the ligatures passed, neither of which were yet loose. Accurate examination of the brachial artery showed the extremity of the vessel above the upper ligature to be hard, and completely filled with coagulum, and this, in connection with the return of the thrill in the vein, which was now nearly as strong as it had originally been, and the direction from which the blood seemed to flow, led both my friend Dr. E. Peace, who was present with me, and myself, to look upon the hemorrhage as proceeding from some opening in the upper part of the sac, and it was determined to lay open the vein and sac, first passing ligatures under the vein above and below, and afterwards tie up any vessels which should be found to give out blood. This was at once done, and a vessel from which arterial blood was poured out was secured at the bottom of the sac.

This proceeding was painful, but gave rise to no undue inflammation or fever. On the 3d of July, the ligature on the lower end of the artery (below the sac) was found to be loose and was removed. On the 7th, there was a return of the hemorrhage to the amount of several ounces, which was checked by lint and compression, and during the night other recurrences of bleeding took place which were each time restrained by pressure. On the 8th there was a renewal of the bleeding to such an extent as to necessitate the application of the tourniquet. All dressings were now removed preparatory to securing the artery high up in the arm, but the hemorrhage was found to have entirely ceased. It was now concluded to apply pure creasote freely to the wound, which was done by means of a camel's hair brush, and lint saturated with this substance was afterwards placed over the part without any other dressing, the extremity being extended on a pillow; the upper ligature was seen to be loose and was removed. On the 12th, the lint having become loosened by suppuration, was removed, and dry lint applied, which was changed every second day till the 25th, when cicatrization had taken place.

In the beginning of the present month, (October,) I saw Mr. K., and found

no trace of pulsation or tumour at the bend of the arm—the extremity had regained all its former power.

The preceding is an example of the affection first accurately described by Park and Physick, in which a false circumscribed aneurism exists in connection with aneurismal varix. The course of treatment to be pursued in either form of aneurismal varix, does not seem to be yet well determined by surgeons; some recommending simple ligature of the vessel above and below the sac without an opening into it, some the Hunterian method, some the ancient operation for aneurism, while others are inclined to rely upon compression alone.

Despite the superficial situation of the vessel, but few examples of the cure of false aneurisms at the bend of the arm by the latter method, (compression,) can be cited, except it be made immediately after the occurrence of the accident, when, if applied with judgment, it will generally prove successful. The mere application of pressure over or above the wound, in the way it is commonly made after venesection, will, however, almost invariably fail. Where the artery is wounded and compression is resorted to, a folded piece of lint should be placed over the wound, and a roller well and evenly applied to the member from the fingers to the shoulder, which will prevent the œdema and great pain so often resulting from the application of pressure at the point of injury alone. The limb after the bandaging should be kept in a state of perfect rest by means of an angular splint applied on the side of the arm, for a week or ten days after the accident, during the whole of which time the patient should be closely watched, and the bandage renewed as often as may be necessary.

Where, however, some time has elapsed after the production of the disease, compression is little to be relied on in its results, severe pain, excoriation, and even gangrene of the sac, having all repeatedly occurred from its application. Except when very recent, too, the Hunterian method is now commonly looked upon as inapplicable in these cases, and is abandoned, general experience proving that it fails where the affection is of any standing. The old operation of laying open the sac and securing the vessel above and below the wounded point, is still recommended by many estimable authors, is often performed, and I believe, when the disease is of long standing, or of large size, is always the best and safest operation. In the case related, ligature of the vessel above and below the tumour, without meddling with its contents, was resorted to, inasmuch as the disease was only moderately developed, in order to avoid the increased danger attendant upon incision of the sac. The accidents to which the method exposes are well exemplified by the above case, and were such as will prevent my ever again having recourse to it, in other than the cases specified. In all the operations for varicose aneurism it is better, if possible, to avoid division of the vein; sometimes, however, this is impossible, and where divided, a thin ligature should be applied to it.